

PATENT SPECIFICATION

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COMPLETE SPECIFICATION

An Improved Pivot Fitting for Hanging Doors, Windows and Like Closures

I, KARL HEINZ MANSFIELD, a National of the Union of South Africa, of 15, Orange Street, Gardens, Cape Town, Cape Province, Union of South Africa, do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to pivot fittings suitable for hanging doors, windows and like closures, and capable of substitution for hinges of the butt or like types in common use. More particularly it provides a form of pivot fitting, parts of which connected respectively to the door, window or the like and to the fixed surround parts, are readily unitable and separable to facilitate attachment and detachment of the door, window, or the like into or from hung position, and also to give access when required to internal parts of the fitting.

It has already been proposed to provide a pivot fitting which comprises two mutually alignable thimble-like members respectively attachable to an edge of the door or the like and to an opposite part of the fixed surround, and a pin or like member housed within said thimble-like members to extend from one into the other and provide a pivotal connection between them when aligned, the said pin or like member being readily retractable into one of said thimble-like members to allow their separation laterally from one another.

According to the present invention, such a pivot fitting is characterised in that, in order to facilitate axial displacement of the pin or the like to retract it into one member, its end which enters and works in the other member is given an oblique surface accessible through the seam between the said members and engageable by a simple tool inserted in such seam to exert a wedge action on the pin or the like through said oblique surface.

[Price 2/8]

The pin or the like may be of cylindrical form, a good rotational fit in one only of the thimble-like members and a free axial fit in both.

The accompanying drawings illustrate convenient embodiments of this invention:

Fig. 1 being a fragmental sectional elevation of the lower part of a door (or equivalent) and the adjacent part of a sill or threshold (or equivalent) with one construction of pivot fitting according to the invention installed in operative position;

Fig. 2 being an exploded outside elevation of the fitting only;

Fig. 3 being a plan as indicated by the line and arrows III—III in Fig. 2;

Fig. 4 being a perspective view of the pin or like component of the same pivot fitting; and

Fig. 5 being a view of the like kind to Fig. 1, showing a modification providing clearance adjustment.

Ordinarily two such constructions of fittings will be used as a pair, on a common axis at opposite (e.g., lower and upper) extremities of the door or the like.

As indicated in these drawings, in a pivot fitting according to this invention, one of the thimble-like members 1 is of the construction shown and may be formed in brass or other such metal. It is intended for setting into a suitable recess in the floor 2 or into the upper edge 3 of a door 4 and is frontally flanged at 1a for flush fixing, its central portion being a short cylinder 1b closed at its base 1c and opening upwardly. The frontal flange 1a has holes through it for fixing screws 8.

The other or mating thimble-like member 5 made in similar metal to member 1 and intended for setting into a suitable recess in the lower edge 6 of a door 4 or into the lintel or head frame 7 according as it is to mate with the thimble-like member 1 in either of its above-stated positions of fixing, is also frontally flanged at 5a. Its

central portion is also in the form of a cylinder 5b and of equal bore to that of the first member but several times its length, in this case, however, extending upwardly and opening downwardly. The closed upper extremity 5c is coned and may be drilled with a central hole for a single fixing screw 8a as an alternative to fixing by means of the frontal flange as in 10 the case of member 1.

The pin 9 is a solid cylinder of steel or other suitable hard-wearing metal freely slideable and rotatable inside the aligned bores of the two mated thimble-like members, and resting under its own weight on the base 1c of the first or lower, 1, of these members, whilst its body extends a substantial distance upwardly into the upper, 5, of said members. The length of the pin 20 is related to the length of the bore of the upper member to enable the pin to be withdrawn upwardly and completely from the bore of the lower member to admit of relative sidewise separational movement of the 25 two members into or out of alignment as required.

The oblique surface above referred to is conveniently provided by the base 10a of a square-section groove 10 cut obliquely 30 into the lower end 10b of the pin which normally bears upon the base of the lower member, the angle and depth of the groove being such that it crosses the plane separating the two members when they are in 35 the assembled state, shown in Figs. 1 and 5, and the sloping base 10a of the groove provides a wedge surface against which the point of a screw driver or other blade inserted along said plane between the two 40 members may be pushed to force the pin upwardly out of the lower member into a position such as indicated by the broken lines in Fig. 1.

It will be noted that provision is made 45 for the inclusion of washers or shims between the frontal flange of the member 5 and the surface or edge into which that member is fixed, for the purpose of adjusting clearances between the relatively pivoted door or like parts. In Fig. 5 such washers or shims 11 embrace the cylindrical part 5b of the member 5, the length of the latter being made sufficient to accommodate up to a considerable number of 55 washers or shims, whilst sufficiently penetrating the part 4 or 7, or its equivalent, for security of attachment.

What I claim is:—

1. A pivot fitting which comprises two 60 mutually alignable thimble-like members respectively attachable to an edge of a door or the like and to an opposite part of the fixed surround, and a pin or like member housed within said thimble-like members to

extend from one into the other and provide 65 a pivotal connection between them when aligned, the said pin or like member being readily retractable into one of said thimble-like members to allow their separation laterally from one another, the said pivot fitting 70 being characterised in that, in order to facilitate axial displacement of the pin or the like to retract it into one member, its end which enters and works in the other member is given an oblique surface accessible 75 through the seam between the said members and engageable by a simple tool inserted in such seam to exert a wedge action on the pin or the like through said oblique surface. 80

2. A device, according to Claim 1, wherein each thimble-like member is provided with a frontal flange or other suitable means whereby it may be fixed in a suitably formed recess in the door edge or the like or in said opposite part of the fixed surround.

3. A device, according to Claim 1 or 2, wherein each thimble-like member is provided with a frontal flange for presenting 90 opposed rubbing surfaces between the two mating thimble-like members and when installed respectively in the under edge of a door and the floor, co-acting as a thrust or footstep bearing taking the weight of 95 the door.

4. A device, according to any of the preceding claims, wherein the pin or the like is of cylindrical form, a good rotational fit in one only of the thimble-like members 100 and a free axial fit in both.

5. A device, according to any of the preceding claims, wherein one of said thimble-like members, more especially that which is intended to be mounted above the other 105 and to accommodate the pin or the like in its retracted condition, is provided with a central fixing means.

6. A device, according to any of the preceding claims, wherein one of said thimble-like members, more especially that which is intended to be mounted above the other and to accommodate the pin or the like in its retracted condition, is of elongated 110 form admitting of the inclusion of washers 115 or shims for adjustment of clearance, substantially as hereinbefore described.

7. A pivot fitting, as shown in Figs. 1 to 4 of the accompanying drawings and described with reference to these drawings.

8. A pivot fitting, as shown in Fig. 5 of the accompanying drawings and described with reference to these drawings.

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1 SHEET

*This drawing is a reproduction of
the Original on a reduced scale.*

FIG 1

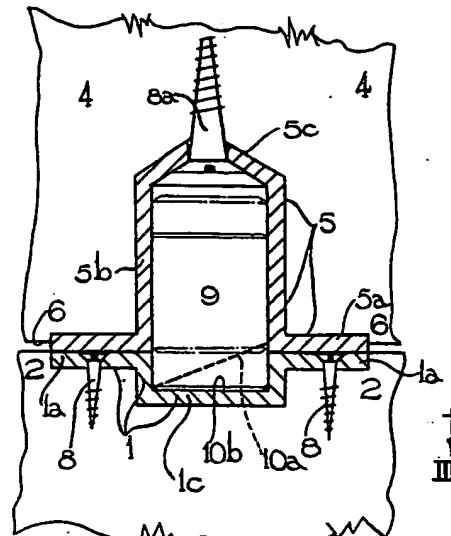


FIG 2

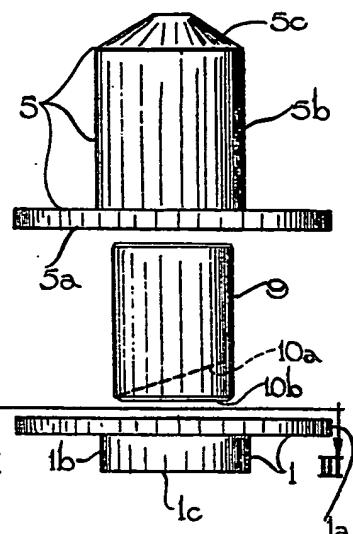


FIG 5

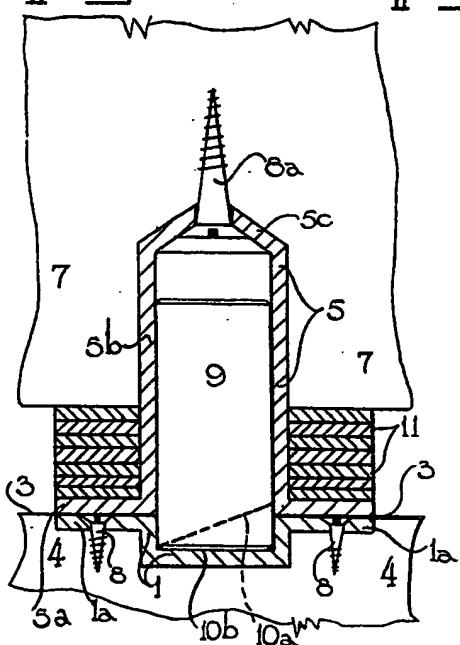


FIG 3

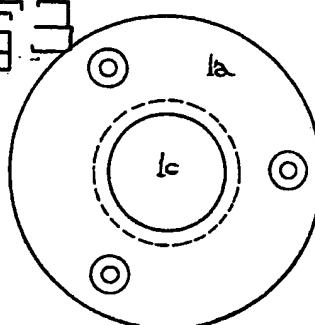


FIG 4

